

2.0 METHODS

2.1 History of Research

In 2003, Skelly and Loy completed Phase I archaeological investigations for the proposed S.R. 54 Improvements (Gundy and Sams 2003a). The survey area consisted of a corridor centered on the centerline of existing S.R. 54 from the intersection of S.R. 54 with Sound Church Road east to the intersection of S.R. 54 with Keenwick Road, and the Zion Church Road realignment area. Geomorphological studies of the survey area identified 17 potential test areas; however, by the time the archaeological survey was undertaken, four of the 17 test areas had been extensively disturbed by continued development along the roadway and no longer had the potential to contain *in situ* archaeological resources. It was also determined that portions of the remaining 13 test areas had been previously surveyed. This left 11 test areas to be surveyed by Skelly and Loy *via* the excavation of shovel test pits (STPs). The only archaeological remains recovered during the Phase I survey of the original S.R. 54 roadway project consisted of six whiteware sherds. These whiteware sherds do not comprise an archaeological site. Based on the lack of previously identified archaeological sites within the study area and the negative results from the Skelly and Loy Phase I archaeological survey, no further archaeological research was recommended.

Subsequent to the completion of the original Phase I survey and later in 2003, Skelly and Loy completed Phase I archaeological investigations for two proposed SWM areas associated with the S.R. 54 roadway project (Gundy and Sams 2003b). Geomorphological investigations of the two SWM areas determined that only one area retained *in situ* soils with the potential to contain archaeological resources. That SWM area was surveyed *via* the excavation of STPs. No archaeological remains were recovered during the Phase I survey of the two SWM areas. Based on the lack of previously identified archaeological sites within the two SWM areas and the negative results from the Skelly and Loy Phase I archaeological survey, no further archaeological research was recommended.

In 2005, Skelly and Loy completed additional Phase I archaeological survey associated with the S.R. 54 roadway project in two proposed SWM swales (Gundy 2005). The proposed locations for the two SWM swales were adjacent to and on the same landform as the two previously surveyed SWM areas; therefore no additional geomorphological studies were completed. Phase I archaeological survey of the two SWM swales consisted of the excavation of STPs along their lengths. No archaeological remains were recovered during the Phase I survey of the two SWM swales. Based on the lack of previously identified archaeological sites within the SWM swales, and

the negative results from the Skelly and Loy Phase I archaeological survey, no further archaeological research was recommended.

Phase I archaeological survey and Phase II archaeological testing were conducted as part of the investigations for the S.R. 54 Stormwater Management Facility No. 46 (Gundy *et al.* 2007). No previously recorded pre-contact or historic period archaeological sites or historic properties eligible or potentially eligible for listing in the NRHP were present within or adjacent to the proposed Stormwater Management Facility No. 46 location, and no pre-contact period artifacts, cultural features, or other archaeological remains were identified during the Phase I archaeological survey. One historic period site, the Adkins site (7S-K-0145), was defined in the test area on the basis of a historic period artifact scatter and the location of former farm buildings; however, no historic period cultural features or structures were identified. The defined portion of the Adkins site (7S-K-0145) located within the Stormwater Management Facility No. 46 Test Area did not yield information important to understanding the historic land use of the farm or its owners. No further archaeological research was recommended at the Adkins site (7S-K-0145).

Subsequent to the completion of the Stormwater Management Facility No. 46 archaeological investigations, DelDOT found it necessary to explore the possibility of siting SWM areas near the western terminus of the S.R. 54 project corridor. This report documents the Phase I archaeological survey undertaken as part of the S.R. 54 SWM Areas 1, 2, 3, & 4 project in April 2008.

2.2 Background Research

Background research completed during the original S.R. 54 Improvements archaeological survey (Gundy and Sams 2003a) was broad enough to cover the areas proposed for the SWM areas. It included the examination of the Delaware archaeological site files, the National Register of Historic Places (NRHP) files, the historic resources inventory files, reports documenting previously conducted cultural resource studies, relevant state-wide contexts, historic maps, and historic as-built roadway plans housed at the Delaware State Historic Preservation Office (SHPO) and DelDOT offices, as well as on the internet. Further background research was conducted at the University of Delaware's Morris Library, the University of Pittsburgh's Hillman Library, and the Carnegie Library of Pittsburgh. The specific landuse history of the SWM Areas 1, 2, 3, & 4 APE also included a review of historic period maps, aerial photographs, and applicable cultural resources reports (e.g., Crist 1998; Otter 2000; Catts *et al.* 1992; McCormick Taylor, Inc. 2004).



2.3 Fieldwork

The Phase I archaeological survey fieldwork for the proposed SWM Areas 1, 2, 3, & 4 APE was conducted by Skelly and Loy personnel in April 2008. Phase I archaeological fieldwork consisted of pedestrian reconnaissance and subsurface testing of the APE. Sixty-eight STPs were excavated in the APE. A 15.0 m (49.2 ft) STP interval was used across the test area; however, when historic period artifacts were identified in Test Area A, the STP interval was reduced to 7.5 m (24.6 ft) to delimit the boundaries of the artifact distribution. The STPs were designated using the southwest grid coordinates pertaining to their location. The STPs were excavated by arbitrary 10.0 cm (3.9 in) levels within natural strata to a minimum depth of 10.0 cm (3.9 in) into the culturally sterile subsoil. All of the sediments recovered from each excavated STP were screened through 0.64 cm (0.25 in) mesh hardware cloth. Information regarding the soil texture and color, depth of any cultural materials recovered, and any soil disturbance was recorded on Skelly and Loy's standard excavation forms. Daily field notes and STP excavation information were kept by the field director. Field data were supplemented with notes made on the project maps, as warranted, and digital photography was used to document the work. A total of 74 historic period artifacts, including 37 pieces of metal (mostly wire nails), 31 pieces of glass (mostly colorless container), three pieces of red brick, one piece of coal, one piece of shell, and one piece of plastic, was recovered during the Phase I archaeological survey.

2.4 Processing, Analyses, and Curation

The historic period artifacts recovered during the Phase I archaeological survey were transported to Skelly and Loy's laboratory upon completion of the survey fieldwork. At the laboratory, the artifacts were washed, labeled, and re-bagged. During their analysis, the historic period artifacts were first divided into major categories according to material type. The recovered material was further subdivided into more specific categories within each type. For example, within the glass category a further breakdown for specific type, such as container and flat, was identified. Other datable attributes, such as manufacture type, vessel morphology, and color, were also incorporated into the identification process. Functional groups designated by Sprague (1980-1981) were also assigned to the recovered data set where applicable. This system helps to define traits necessary for the reconstruction of past lifeways at a site, and for intra-site comparison when appropriate. Following the identification of an artifact, a date range was assigned to the artifact, if possible, based on criteria such as raw material, manufacturing process, and maker's/trade marks.



The specificity of the assigned date ranges is based on the number and type of diagnostic characteristics present for any given artifact. Appendix A contains the artifact provenience and analysis catalogs. Based on the non-diagnostic nature and twentieth century dates of the artifacts, they will most likely not be curated permanently. Discussions and coordination with Delaware State Museums will determine if permanent curation is warranted.

